

AMENDMENTS TO THE CLAIMS

Please replace all previous versions of the claims with the following listing:

1. (Currently Amended) A current-carrying/heating apparatus of liquid food, which carries a current to fluid heat-exposed food and heats the heat-exposed food by resistance heat obtained, the apparatus comprising:

a primary winding wound about one of a plurality of iron-core legs of an iron core and connected to an AC power supply; and

a heat pipe wound one turn about an other iron-core leg of said iron core, having a communication hole to which the heat-exposed food is supplied, the communication hole continuing in a loop shape formed by distinct first and second communication channels extending around and corresponding to the cross-sectional shape of the iron-core leg, the loop shape providing a channel for the heat-exposed food to constitute and constituting an electric closed loop circuit through the heat-exposed food supplied to said communication hole,

wherein a magnetic flux is generated around said iron core by the current flowing to said primary winding, and a current, induced by an operation of electromagnetic induction of the magnetic flux, flows to the heat-exposed food.

2. (Cancelled)

3. (Cancelled)

4. (Original) The apparatus according to claim 1, wherein said heat pipe includes: a supply portion in which a supply hole communicating with said communication hole is provided and which supplies the heat-exposed food into said communication hole; and an exhaust portion in which an exhaust hole communicating with said communication hole is provided and which exhausts the heat-exposed food from said communication hole, and

the heat-exposed food is heated while continuously flowing into said communication hole.

5. (Cancelled)

6. (Cancelled)

7. (Withdrawn) The apparatus according to claim 1, wherein said heat pipe includes a plurality of winding parts, which are winded about said iron core and continue helically.

8. (Cancelled)

9. (Cancelled)

10. (Withdrawn) The apparatus according to claim 4, wherein said heat pipe includes a plurality of winding parts, which are winded about said iron core and continue helically.

11. (Cancelled)

12. (Cancelled)

13. (New) A current-carrying/heating apparatus of liquid food, which carries a current to fluid heat-exposed food and heats the heat-exposed food by resistance heat obtained, the apparatus comprising:

a primary winding winded about an iron core and connected to an AC power supply; and

a substantially electrically non-conductive heat pipe winded about said iron core, having a communication hole to which the heat-exposed food is supplied, and constituting an electric closed loop circuit through the heat-exposed food supplied to said communication hole,

wherein a magnetic flux is generated around said iron core by the current flowing to said primary winding, and a current, induced by an operation of electromagnetic induction of the magnetic flux, flows to the heat-exposed food.